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TECHNICAL AND ECONOMIC ASPECTS OF THE INDUSTRIALIZATION OF BUILDING

By The Steel, Engineering and Housing Division,
Economic Commission for Europe

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TECHNICAL AND ECONOMIC ASPECTS OF THE INDUSTRIALISATION OF BUILDING

A paper prepared and submitted by the Steel, Engineering and Housing Division, Economic Commission for Europe

The Housing Committee of the Economic Commission for Europe has devoted its attention over the last fifteen years to the complex problems of technical and economic policies in the field of building in general, and more particularly of house-building in Europe.

It is felt that some of the problems to be faced and the approach followed in their solution may be of interest to developing countries.

The general expansion of quantitative housing needs, the trend towards urbanisation, and the general increase in building costs, are all factors contributing to making economies in building costs one of the main problems of government housing policies and, in a sense, an important aspect of economic development.

The Committee has undertaken three major studies intended to throw light on the main components of actual house-building costs and on the factors affecting them:

(a) An enquiry on house-building costs, covering some sixty building sites in nine European countries, and a wide range of building materials and building methods - from purely traditional construction to the most recent examples of full-scale prefabrication of room-size wall and floor panels.

(b) The enquiry on house-building costs confirmed that building materials represent up to, and sometimes even more than 60 per cent of the total cost of construction. Attention was therefore devoted to the possibility of reducing this item of cost, and in particular to the benefits to be derived from mass-production. A special study was undertaken on the effect of repetition on the production cost of building materials and components, and more specifically on how production costs of selected components currently used in house construction may be, and actually are reduced through a systematic limitation of the number of models produced, or an increase in the length of production runs.

(c) A study of the problem of the lifetime of a building and of the expenditure on maintenance and repairs. So far in planning housing development, only the initial cost of a building has been taken into account, but whatever the expected economic or social life of a building may be, some periodic expenditure will be required to maintain it in conditions suitable for the use for which it has been designed. The need was felt, therefore, to integrate into a single notion of "total" cost, both the initial building cost and the sum of all the future expenditure required to maintain it or replace its parts over its expected lifetime.

The provisional conclusions of these three enquiries are discussed, and their possible application to some of the special problems of under-developed countries.

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